Your vision, automated

MCOM100PH

PH METER

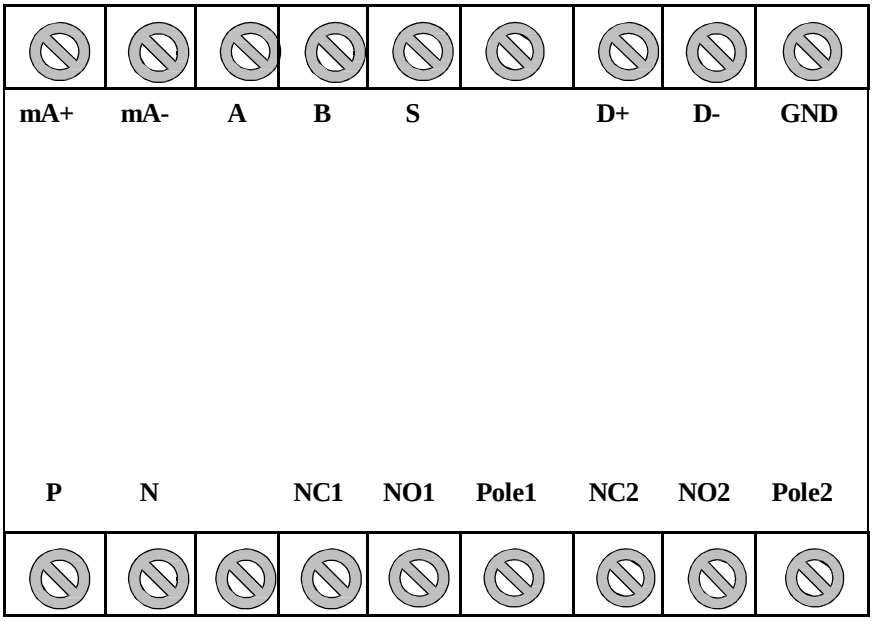
The MCOM100PH is a precise and reliable pH/Temperature meter designed for continuous monitoring in water treatment, industrial processing, and laboratory applications. It offers a wide pH measuring range of 0.00 to 14.00 pH with 0.01 pH resolution and integrated temperature measurement from 0.0 to 60.0°C. Featuring two-point calibration, automatic/manual temperature compensation, and LED indicators for high/low pH alarms, the MCOM100PH ensures accurate and stable performance. A clear 16×2 LCD display, optional 4–20 mA / RS485 Modbus output, and compact 96×96 mm panel-mount design make it easy to integrate into any monitoring or control system.

MCOM100PH

➢ TECHNICAL SPECIFICATIONS

Measuring Range	0.0 to 14.00 PH 00.0 to 60.0 deg. C
Resolution	0.01 PH 0.1 deg. C
Accuracy	0.1 PH 0.5 deg. C
Calibration	Two point calibration using front panel keyboard.
Temperature Compensation	Automatic from 0 to 60.0 deg. C & Manual between 0.00 to 100.0 deg. C removing temperature sensor.
Alarms	LED indication for High & Low PH value.
Display	LCD display : 16*2 character
Interface	4 – 20 mA (optional) RS485 (Optional)
Power Supply	230V AC
Physical Dimensions	96 x 96 x 85
Enclosure	Plastic
Mounting	Panel

➢ INSTRUMENT INSTALLATION



mA+ = 4 to 20 mA input	**P** = 230V AC 50Hz Phase terminal
mA- = 4 to 20 mA ground	**N** = 230V AC 50 Hz Neutral terminal
A = sensor A (Pulse)	**NC1** = NC of Relay1
B = sensor B	**NO1** = NO of Relay1
S = sensor shield	**Pole1** = Pole of Relay1
D+ = RS485 D+ pin	**NC2** = NC of relay2
D- = RS485 D- pin	**NO2 =** NO of Relay2

➢ OPERATING INSTRUCTIONS

P	**INC**	**DEC**	**ENT**

*Above mentioned keys are used to set the parameters and enter password.

→ P = For Program mode and as shift key to select digit for editing.

→ INC = To increment editing digit or UP key for selecting previous option of settings.

→ DEC = To decrement editing digit or DOWN key for selecting next option of settings.

→ ENT = To save current parameter and switch to next parameter.

- **PROGRAM MODE**
  - Press Program key for 2 sec. & Enter the password of settings to edit.
  - Relay settings password = 1200
  - Mode setting password = 1210
  - Factory reset password = 1220
  - RS485 setting password =1300
  - Calibration mode password=1400

1. RELAY SETTINGS

- **SP1(For RLY1-** low set point**):**
  - **a.** Four digit value (XX.XX) of PH editable through front keypad.
  - **b.** Range 00.00 to 14.00 PH
- **HYS1 (For RLY1-** low set point**):**
  - **a.** Three digit value (X.XX) of PH editable through front keypad
  - **b.** Range 0.01 to 9.99
  - **c.** RLY1 and LED1 gets turn ON when PH reading falls down value (SP1-HYS1).
  - **d.** RLY1 and LED1 gets turn OFF when PH reading increased above (SP1+HYS1)
- **SP2 (For RLY2-** higher set point**):**
  - **a.** Four digit value (XX.XX) of PH editable through front keypad.
  - **b.** Range 00.00 to 14.00 PH
- **HYS2 (For RLY2-** higher set point**):**
  - **a.** Three digit value (X.XX) of PH editable through front keypad.
  - **b.** Range 0.01 to 9.99
  - **c.** RLY2 and LED2 gets turn ON when PH reading increased above value (SP2+HYS2).
  - **d.** RLY1 and LED1 gets turn OFF when PH reading falls down value (SP1-HYS1).
  - **e.** Press Enter key to save parameters and exit settings.

2. MODE SETTINGS

A. OPERATING MODE:

- Select Auto mode for automatic temperature compensation (temperature sensor must be connected).
- Select Manual mode to set temperature manually.

B. SET Temperature(for manual mode only):

- Four digit value (XX.XX) editable through front keypad.
- Range 00.00 to 99.99 ℃
- Press ENT to save mode parameters and exit to main screen.

3. FACTORY RESET

- Press ENT to reset all parameters to factory reset values.
- Press Program key to exit without factory reset.

4. 485 SETTINGS

A. SLAVE ID:

- 3 digit device id (XXX).
- Valid device id 001 to 250.

B. BAUD RATE:

Bit rate for Modbus communication.

- 2400
- 9600
- 19200

Selectable through INC and DEC keys.

C. PARITY:

1. NONE
2. EVEN
3. ODD

Selectable through INC and DEC keys, Press ENT to save 485 parameters and exit to main screen.

5. CALIBRATION MODE

- If mode of operation is set as manual, temperature must be set to the temperature at calibration before calibrating the meter.
- If mode of operation is set to Auto mode, temperature sensor must be connected to the meter.
- Use standard buffer solution for calibration (two point calibration).
- Rinse electrode before placing it to the standard solutions.

1) SENSOR FACTOR:

- Factor provided by sensor manufacturer. It is temperature coefficient of sensor that decides variation in slope with temperature.
- Ideally it is 0.1984.
- Editable through front keypad.

2) CAL ACT ZERO:

- Place PH electrode into standard buffer solution for ZERO POINT.
- Wait till stable PH reading on display.
- Press ENT to save actual value of zero point

3) CAL SET ZERO:

- four digit value(XX.XX)
- SET desired ZERO PH value with keypad
- Press ENT to save SET ZERO PH value.

4) CAL ACT SPAN:

- Place PH electrode into standard buffer solution for SPAN.
- Wait till stable reading on display.
- Press ENT to save actual value of span point.

5) CAL SET SPAN:

- four digit value(XX.XX)
- SET desired SPAN PH value with keypad
- Press ENT to save SET SPAN PH value, and end the calibration process. Now meter will be calibrated to new ZERO and SPAN values.

➢ GENERAL SAFETY INSTRUCTIONS & WARRANTY

This Operating manual contains basic instructions that must be followed during operation and maintenance of meter. Incorrect wiring leads to breakdown or damage to instrument, please read the operational manual clearly before installation.

- Make sure to remove AC power before connecting sensor/ inputs and outputs and before opening the meters housing or enclosure.
- Check for correct supply voltage before powering up the instrument.
- Avoid the meter to keep in continuous direct sunlight.
- Storage temperature 0 to 55°C.

❖ Warranty Terms

- We warrants that this instrument is free from defects in workmanship and materials under normal use and service as mentioned in the manual from the date of purchase from manufacturer. The hardware is under one year of warranty.
- The manufacturer is not liable (under this warranty) for defects caused by misuse, improper installation testing or calibration and any unauthorized attempt to repair or modify the instrument or any other cause of damage by fire, water damage or improper wiring.
- If instrument is unable to perform as specified in manual or any other queries regarding the instrument contact to our sales person.
- We would appreciate inclusion of additional information.